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STATE OF WASHINGTON  
DEPARTMENT OF ECOLOGY

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September 4, 1996

Mr. Jeff Bruggeman  
U.S. Department of Energy  
P.O. Box 550  
Richland, WA 99352

Dear Mr. Bruggeman:

Re: Transmittal of Comments Regarding the Draft Engineering Evaluation/Cost Analysis (EE/CA) for the 233-S Plutonium Concentration Facility (BHI-00870, August 1996)

The Washington State Department of Ecology (Ecology) and the Environmental Protection Agency have reviewed the above referenced document. Please find the review comments attached. Due to the number and nature of comments, Ecology requests the draft EE/CA receive one more review prior to public issuance. If you or your staff have any questions regarding this letter or the attached comments, please contact me at (509) 736-3034.

Sincerely,

Alisa D. Huckaby  
S Plant Area Project Manager  
Nuclear Waste Program

AH:sb

cc: Dave Bartus, EPA  
Doug Sherwood, EPA  
Mary Lou Blazek, ODOE  
Cliff Clark, USDOE  
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Rich Holten, USDOE  
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Barry Vedder, BHI  
Dan Ogg, DNFSB  
Administrative Record: REDOX



**Ecology's Comments Regarding**  
**Draft Engineering Evaluation/Cost Analysis for the 233-S Plutonium**  
**Concentration Facility (Document Number BHI-00870, August 1996)**

**Section 1.0, Page 1** The second paragraph states 'the Engineering Evaluation/Cost Analysis (EE/CA) has been prepared in cooperation with the Washington State Department of Ecology.' It should be noted Ecology has, to date, been involved with the preparation of the EE/CA. It should also be noted, our involvement does not mean Ecology believes USDOE is in compliance with Section 8.0 of the TPA.

**Section 1.0, Page 1** In the second paragraph it states 'the EE/CA has been prepared in cooperation with the Washington State Department of Ecology.' In the event it is decided Ecology is not the lead regulatory agency (prior to the completion and/or issuance of the EE/CA), it is requested the sentence be modified to correctly identify the lead regulatory agency's involvement/cooperation.

**Section 1.0, Page 1** Reviews to consider radiological air emissions and radiological worker safety and health conditions have not been performed by the State of Washington. In addition, reviews to consider industrial hazards associated with worker safety and health conditions have not been performed. Given this degree of review, it is appropriate to indicate in the second paragraph that the CERCLA actions discussed in this EE/CA, of which Ecology has cooperated in preparation, address only environmental actions taken or that may be necessary to prevent, minimize, or mitigate damage to public health, welfare, or to the environment. It is also appropriate to indicate, in the second paragraph, that the CERCLA actions discussed in this EE/CA, of which Ecology has cooperated in preparation, are in no way intended to ensure USDOE's or USDOE contractor's compliance with USDOE Orders. Similarly, it is appropriate to indicate, in the second paragraph, that the CERCLA actions of which Ecology has cooperated in preparation, have not addressed worker safety and health conditions.

**Section 1.0, Page 1** The second paragraph indicates an Action Memorandum will be prepared and signed by Ecology and USDOE-RL. It should be noted, Ecology may not retain the lead regulatory agency status. In the event Ecology does not retain the lead regulatory agency status (prior to the completion and/or issuance of the EE/CA), the sentence should be modified to correctly identify the lead regulatory agency. In addition, it is appropriate to identify that an Action Memorandum would also be signed by EPA.

**Section 1.0, Page 1** The second paragraph indicates an Action Memorandum will be prepared and signed by Ecology and USDOE. This indication implies an agreement. Delete the sentence and include the identification that the Tri-Party Agreement (TPA) must be modified to identify the process whereby such decommissioning activities under the CERCLA authority could occur.

**Section 1.0, Page 1** An implied distinction between USDOE-HQ and USDOE-RL is noted in the second paragraph. If the distinction is important to the implementation of the process (the conductance of Decontamination and Decommissioning [D&D] under the CERCLA authority), we recommend the delegation of authority from USDOE-HQ to USDOE-RL be described, explained, and/or referenced somewhere in the EE/CA. During a workshop held August 20-22, 1996, an approval by USDOE-HQ of the process (by which worker safety issues associated with D&D under the CERCLA authority would be addressed) was being sought. If such approval is obtained prior to the issuance of the EE/CA, it is appropriate to describe, explain, and/or reference it in the EE/CA.

**Section 1.0, Page 1** Ecology recommends an identification of the scope of the EE/CA be included in the introduction. The description of scope would be appropriate to address the intent to protect human health and the environment. It would also be appropriate to identify the boundaries of the EE/CA scope. For example, for purposes of this application, the intent of the EE/CA is to equally evaluate all human health risks (including workers), environmental risks, and costs associated with the various alternatives to enable the decision makers and the public to select an alternative.



Section 2.1, Page 2 The second paragraph states 'Public access to the Hanford Site...is currently restricted.' Revise the statement to read: 'Public access to the Hanford Site beyond the Wye Barricade...is currently restricted.'

Section 2.1, Page 5 It is appropriate to include a reference to the formal memorandum of agreement (MOA) between the State of Washington Historic Preservation Office, USDOE, and the Advisory Council on Historic Preservation.

Section 2.2, Page 5 The 233-S Plutonium Concentration Facility is stated to be comprised of 'the original 233-S process building,...and interconnected piping, trenches, and ducting.' The scope description related to the subsurface structures is included in Section 3.0 on Page 16. This scope description should be moved to Section 2.2. It is noted Figures 3 and 4 do not provide a schematic of the interconnected piping, trenches, and ducting. Revise the existing figures to show which piping and subsurface structures are within the scope of this EE/CA. It is also noted, as was described in Ecology's July 29, 1996, letter (regulatory status related to 202-S and 233-S buildings), which was in response to a letter dated May 1, 1995, from Mr. Dan Silver (Ecology), that USDOE identified "REDOX" as a potential non-permitted TSD unit and is pending resolution. In the same letter, it was identified that Ecology has been informed of the following: 1) the existence of a secondary waste stream recirculation line (L-16 to E-3) which was omitted from the deactivation activities conducted in the late 1960's, 2) these same lines were designed to direct secondary waste stream material from the 202-S Building to the 233-S Building via waste tunnels, processed, then eventually discharged back into D Cell located in the 202-S Building, and 3) whatever inventory, though unknown at this time, was previously in the referenced lines may still exist in the lines and/or in D Cell. For regulatory decision making purposes, identification of inclusive scope, and for clarification purposes, a detailed identification of the interconnected piping, trenches, and ducting between 202-S and 233-S Buildings is required to be either included in the EE/CA or a reference cited by which a definitive scope determination may be made. In addition, an identification of ownership of these lines is required to be identified (i.e., exactly where along the lines the separation of 202-S and 233-S Buildings occurs). For clarification purposes, a detailed identification of the abandoned filter box located between 233-S and 233-SA Buildings is also being required to be either included in the EE/CA or a reference cited by which a definitive scope determination may be made.

Section 2.2, Page 7 It is Ecology's understanding that the roof is radiologically (alpha) contaminated. Therefore, the roof should be described in Section 2.2.

Section 2.2, Page 7 The Process Pipe Trench paragraph should include specification of the pipe trench, specifically, which pipes (including lengths), are considered to be within the scope of this EE/CA.

Section 2.2.2, Page 9 An identification of the building's Surveillance and Maintenance (S&M) status should be included. In addition, an identification of all S&M plans should be included by reference. Ecology's understanding is the building is currently being addressed by USDOE's Environmental Restoration (ER) Program.

Section 2.2.2, Page 9 The documentation of the demonstration project should be referenced in the second paragraph of the section.

Section 2.2.2, Page 9 The documentation of stabilization activities should be referenced in the third paragraph of the section.

Section 2.2.2, Page 9 An additional paragraph describing the condition of the roof should be included. Although there is a sentence in the fourth paragraph of the section that describes other work accomplished in 1990, it is appropriate to include a description of the roof as a facility condition. The description should include detail about roof assessment(s), as well as, roof repairs (foam and tar additions). The section should also include all applicable references of documentation.

Section 2.2.2, Page 9 An additional paragraph describing the condition of the stairwell should be included. The description should include detail about construction specifications and structural considerations

related to differential settling in relation to the original building structure. The section should also include all applicable references of documentation.

Section 2.2.2, Page 10 An identification of the effectiveness of the facility utilities (heat in particular) should be added to the sixth paragraph. The ineffectiveness, in terms of preventing further deterioration (in the form of concrete crack elongation), appears to be the intent of the final sentence of the sixth paragraph. It would be appropriate to identify if the routine maintenance conducted thus far and addressed by the current S&M activities, is believed to be adequate to prevent further deterioration. During a meeting held on August 30, 1996, it was explained that configuration control in relation to radiological contamination is a re-occurring issue which requires decontamination be conducted on a routine basis. Configuration control appears to be a different issue than that described by the sixth paragraph. Therefore, this paragraph should also describe the decontamination efforts necessitated by radiological contamination configuration control issues.

Section 2.3, Page 10 The roof should be included in the fourth sentence of the first paragraph. A recommended word insertion: 'Current radiation survey data indicate that fixed contamination exists in all rooms and on the roof and loose....'

Section 2.3, Pages 10-15 As previously stated, reviews to consider radiological air emissions and radiological worker safety and health conditions have not been performed by the State of Washington. In addition, reviews to consider industrial hazards associated with worker safety and health conditions have not been performed by the State of Washington.

Section 2.3, Pages 10-15 During a meeting on August 30, 1996, regarding the EE/CA cost estimates, the existence of 'engineering files' which contain characterization or end-point-criteria-like information was identified. This information should be made available for review in relation to this EE/CA. Please note, Ecology has formally requested end-point criteria for the 233-S Building (see Ecology's July 29, 1996, regulatory status related to 202-S and 233-S Buildings letter), in addition to a clear delineation of deactivation states. The information should be incorporated by reference throughout Section 2.3. Similarly, references for all such facility characterization information should be included in the descriptions of Areas 1 through 6.

Section 2.3, Page 11 The fourth paragraph of the section indicates there may be some residual liquid in the process lines. In Section 3.2 of the supporting document entitled *Passive Neutron Survey of the 233-S Plutonium Concentration Facility* (Document Number BHI-00749, Rev. 0, August 1996), it states 'a thin layer of dried residue is anticipated on the inside of the pipes and vessels.' Such discrepancies must be resolved or at the very least, discussed and qualified and/or quantified. If qualification and/or quantification is made, it is appropriate to cite all applicable documents. If confirmation has occurred, it is appropriate to cite the applicable document which resolves the discrepancy.

Section 2.4, Page 15 Ecology recommends the second word 'the' in the last sentence of the second paragraph be changed to 'a'. The recommended re-wording would be, 'The potential exposure to personnel and potential threat of a release justify a removal action.'

Section 4.0, Page 16 Regarding alternative number 2, Table 3 of the EE/CA implies upgrades will be necessary in addition to S&M. As the cost estimates include upgrades, upgrades should be identified as part of alternative number 2.

Section 4.0, Page 16 During a workshop conducted on August 20-22, 1996, it was proposed that another alternative, consisting of decontamination and/or stabilization and removal of the principal threat contamination (i.e., D&D of the process cell) without D&D of the remainder of the facility and without demolition of the structure existed as a reasonable alternative. This alternative should be considered in the EE/CA.

Section 4.0, Page 16 Regarding alternatives number 3 and 4, 'disposal of contaminated cleanup waste to the Environmental Restoration Disposal Facility (ERDF)' is indicated. An identification that disposal of LLW and mixed waste will occur for the wastes not meeting ERDF's waste acceptance criteria should also



be included. In addition, the identification of the anticipated necessity of disposal of transuranic (TRU) and dangerous wastes should be included in the two alternatives. Where applicable, alternate disposal paths should be identified for waste that does not meet ERDF's waste acceptance criteria.

Section 4.0, Page 16 During a workshop conducted on August 20-22, 1996, it was suggested that another alternative, consisting of grouting or foaming of the facility, be identified. If this alternative has been evaluated and dismissed as an alternative, discussion reflecting the decision should be included. In addition, reference the documented decision making process by which this alternative was dismissed.

Section 4.1, Page 17 Estimated volumes of waste generated, by waste type (LLW, TRU, dangerous, mixed, etc.), should be included in the EE/CA. A more appropriate place for inclusion of this information may be in Tables 4 and 5.

Section 4.1, Page 17 The entire definitional criteria of TRU waste should be included in the first sentence of the fourth paragraph as the following: 'Transuranic waste is defined by U.S. Department of Energy Order 5820.2A as any waste, regardless of source or form, that is contaminated with alpha-emitting transuranic radionuclides with half-lives greater than 20 years and in concentrations greater than 100 nanocuries per gram of the waste matrix at the time of assay.' It should also be noted, it is Ecology's understanding that at the Hanford Facility, transuranic waste also includes uranium-233 and radium sources.

Section 4.1, Page 17 The identification of another TRU waste storage facility should be included in the fourth paragraph of this section. It is Ecology's understanding the TRUSAF facility will close in the near future and the waste currently being stored there will be moved to the Central Waste Complex (CWC). It should be noted, if CWC is identified as the receiving facility of this waste, USDOE must first confirm applicable curie loading criteria limits at CWC. If TRU waste management is in question, identify this issue in the EE/CA.

Section 4.1, Page 17 It is indicated that liquid wastes might be packaged and transported to the Hanford Site underground tank farms to be dispositioned with other radioactive liquids. If this statement is to remain in the EE/CA, it should specify the liquids would be sent only to the double shell tanks (DSTs) and that prior to the DST System's acceptance and receipt, the liquids would first have to be characterized and meet DST waste acceptance criteria. An alternate disposal path should be identified for waste which does not meet the DST System's waste acceptance criteria.

Section 4.1, Page 17 The words 'an offsite' in the last sentence of the fifth paragraph should be deleted and the word 'a' should be inserted in their place. It is also recommended the sentence be re-written to read 'Non-radioactive liquids contaminated...would be packaged and shipped to a permitted facility for storage, treatment, and/or disposal in compliance with applicable regulations.'

Section 4.2, Page 17 The paragraph does not discuss the potential risk to the public in the event of a release due to roof collapse. If there is risk to the public with the no action alternative, identify it in this paragraph. Also, the wording 'releases of contaminants from the facility would ultimately occur' does not differentiate between human health (including workers) and/or the environment as being impacted or a recipient of the releases.

Section 4.3, Page 18 The section does not discuss the minimization of risk to the public due to the performance of S&M and upgrades. If there is a change in risk to the public in comparison to the no action alternative, it is appropriate to identify the change in this paragraph.

Section 4.3, Page 18 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the \$100,000 figure was derived by averaging the cost of a new roof (and disposal costs associated with foam and tar currently existing on the roof) over a twenty year period. For clarification, the text should state the two million dollar amount estimated for the roof was averaged over a twenty year period resulting in the \$100,000 annual cost estimate.



Section 4.3, Page 18 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost estimates of Table 3 did not take credit for remote surveillance. Provide the assumptions for all of the cost estimates, for each alternative, for review in relation to this EE/CA. In addition, reference all such documentation used for the preparation of this EE/CA.

Section 4.4, Page 18 As all wastes generated during the decontamination of 233-S are not destined for ERDF, the words 'To ERDF' in the title of the section should be deleted.

Section 4.5, Page 19 As all wastes generated during the decontamination of 233-S are not destined for ERDF, the words 'To ERDF' in the title of the section should be deleted.

Section 4.5, Table 4 The title of the table implies all disposal will occur at ERDF. As this may not be the case, delete the words 'To ERDF.'

Section 4.5, Table 4 Provide the assumptions for all of the cost estimates, for each alternative, for review in relation to this EE/CA. In addition, it is appropriate for all such documentation used for the preparation of this EE/CA be referenced in the EE/CA.

Section 4.5, Table 4 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was indicated the cost estimates of Table 4 do not include the decontamination of the alpha contaminated roof. It was also indicated the disposal estimates associated with the roof tar and foam material removed and generated as waste during decontamination of the roof were not included in Table 4. Add the associated costs to Table 4.

Section 4.5, Table 4 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost estimates associated with removal of vessels and decontamination of the hood were based upon experience gained during D&D activities associated with gloveboxes in a laboratory located in Columbus, Ohio. The cost estimates of removal of vessels and decontamination of the hood should be based upon costs which more accurately reflect the type of work to be conducted in the 233-S process cells.

Section 4.5, Table 4 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost of upgrades associated with a decontaminated roof were not estimated on the same assumptions used for Table 3. The associated costs of S&M upgrades in relation to a decontaminated roof should be reflected by the S&M upgrades cost estimate figure.

Section 4.5, Table 4 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost of additional characterization (i.e., to obtain additional information about the conditions of the facility prior to decontamination) is not anticipated due to the existence of 'engineering files' which contained characterization or 'end-point-criteria-like' information. It was also indicated that additional characterization information would be obtained during decontamination activities. Due to the concern of inadequate characterization information regarding conditions of the facility, an additional line should be added to Table 4 which identifies the estimated costs associated with obtaining additional characterization information prior to the implementation of decontamination. Similarly, an additional line should be added to Table 4 which identifies the estimated costs associated with obtaining additional characterization information during decontamination. It is noted that during the August 30, 1996, meeting, it was explained the characterization costs during decontamination have been built into the specific activities. In particular, it is noted that real time in-situ analyses have been recommended to be performed in coordination with component and vessel removal in the summary/conclusions of the supporting document entitled *Passive Neutron Survey of the 233-S Plutonium Concentration Facility* (Document Number BHI-00749, Rev. 0, August 1996). As these costs are believed to be considerable and represent a specific activity/cost which is appropriate to evaluate separately, an itemization should be made by the addition of a line for this specific cost/activity.

Section 4.5, Table 4 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost of characterization for waste acceptance purposes after waste generation is built into the 'subcontracts' and activity-specific cost estimates. As these costs are believed to be considerable



and represent a specific activity/cost which is appropriate to evaluate separately, an itemization should be made by the addition of a line for this specific cost/activity.

Section 4.5, Table 4 Footnote 'a' of Table 4 indicates 'key cost assumptions include disposal of low-level radioactive waste at the ERDF....' Considering the incomplete definition of TRU waste on page 17 of the EE/CA, a confirmation of the accuracy of the assumptions related to the volumes of LLW waste to be generated during these activities be made. In particular, it is noted, the majority of the waste generated is identified to be 'packaged as LLW'. Additional cost information should be added to the table to identify the key cost assumptions associated with storage, treatment and/or disposal of TRU waste.

Section 4.5, Table 4 Footnote 'b' of Table 4 indicates the estimated disposal costs do not include costs to dispose of inert (non-hazardous) demolition waste. For purposes of this cost analysis, these estimates should be added to the table. While it is understood the demolition waste disposal costs associated with this alternative may be low, those associated with alternative 4 may be substantially higher and therefore, are appropriate to identify.

Section 5.1, Pages 21 and 22 This section does not adequately address overall protection to workers by comparing the safety risks associated with each alternative. For decision making purposes, this information must be included. By this omission, the alternatives are not equally weighted. During a workshop conducted August 20-22, 1996, the lack of a complete inventory of hazards was repeatedly identified as a concern. If a complete inventory of hazards is not known or quantifiable, it is appropriate to identify this deficiency and address it in such a way that maximizes, to the extent possible, an equal comparison of alternatives in relation to safety risks to workers. For such cases which risks are not completely inventoried, it is recommended a quantification, if possible, of the uncertainties associated with the incomplete hazards inventory be included for each alternative in relation to worker safety and health.

Section 5.1, Page 22 Ecology recommends this section be re-written to separately identify the potential consequences of each alternative so each alternative can be evaluated without bias. It is noted, the limited discussion of the decontamination and demolition alternatives do not identify the potential consequences associated with the proposed work. In particular, the safety summary contained in the supporting document entitled *Safety Analysis for the 233-S Decontamination and Decommissioning Project* (Document Number BHI-00892, Rev. 0, August 1996), indicates radiological consequences due to accidents or upsets were found to be primarily localized to the interior of the 233-S Facility and near proximity. The same summary also indicated de-commissioning workers are the most likely receptors at risk of radiological exposure.

Section 4.5, Page 21 The third paragraph indicates further evaluation of remaining subsurface structures and contaminated soils is beyond the scope of this EE/CA. It is assumed that continued S&M associated with the subsurface structures (piping trenches, filtration system box, etc.) would occur. If this assumption is correct, the S&M associated with these structures should be identified and the applicable S&M costs be reflected in Tables 4 and 5. If this assumption is incorrect, the lack of S&M associated with the subsurface structures should be identified in the paragraph.

Table 5, Page 22 The title of the table implies all disposal will occur at ERDF. As this may not be the case, delete the words '(ERDF Disposal)'.

Table 5, Page 22 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost of additional characterization (i.e., those costs to obtain additional information about the conditions of the facility prior to decontamination) is not anticipated due to the existence of 'engineering files' which contain characterization or 'end-point-criteria-like' information. It was also indicated that additional characterization information would be obtained during decontamination activities. Due to the concern of inadequate characterization information about the conditions of the facility, an additional line should be added to Table 5 which identifies the estimated costs associated with obtaining additional characterization information prior to the implementation of decontamination, even if that line indicates a non-cost. Similarly, during the August 30, 1996, meeting it was explained that the characterization costs during decontamination have been built into the specific activities. In particular, it is noted that real time in-situ analyses have been recommended to be performed in coordination with component and vessel



removal in the summary/conclusions of the supporting document entitled *Passive Neutron Survey of the 233-S Plutonium Concentration Facility* (Document Number BHI-00749, Rev. 0, August 1996). As these costs are believed to be considerable and represent a specific activity/cost which is appropriate to evaluate separately, an itemization should be made by the addition of a line for this specific cost/activity.

Table 5, Page 22 During a meeting held on August 30, 1996, regarding the EE/CA cost estimates, it was explained the cost of characterization for waste acceptance purposes after waste generation is built into the 'subcontracts' and activity-specific cost estimates. As these costs are believed to be considerable and represent a specific activity/cost which is appropriate to evaluate separately, an itemization should be made by the addition of a line for this specific cost/activity.

Table 5, Page 22 Footnote 'b' of Table 5 indicates the estimated disposal costs do not include costs to dispose of inert (non-hazardous) demolition waste. For purposes of this cost analysis, these estimates should be added to the table. It is understood the demolition waste disposal costs associated with this alternative may not be insignificant and are, therefore, appropriate to identify.

Table 5, Page 22 Footnote 'a' of Table 5 indicates 'key cost assumptions include disposal of low-level radioactive waste at the ERDF....' Considering the incomplete definition of TRU waste on page 17 of the EE/CA, a confirmation of the accuracy of the assumptions related to the volumes of LLW waste to be generated during these activities should be made. In particular, it is noted that the majority of the waste generated is identified to be 'packaged as LLW.' Additional cost information should be added to the table to identify the key cost assumptions associated with storage, treatment, and/or disposal of TRU waste.

Section 5.2, Page 23 The last sentence of the first paragraph implies the process for determining applicable or relevant and appropriate requirements (ARARs) in relation to USDOE Orders is yet to be done. As applicable environmental laws have been identified as ARARs (RCRA, CAA, TSCA, etc.), it is appropriate to also identify which USDOE Order imposed worker safety and health ARARs are to be acknowledged. In particular, USDOE Orders should be identified by number with a further identification of which requirements are considered administrative versus substantive. For clarification, an additional section (Section 5.12) should be added to the EE/CA which describes the resolution of the safety issues associated with USDOE Order requirements as related to conducting D&D activities under CERCLA authority. This section should detail how administrative and substantive requirements of which safety-related USDOE Orders are to be satisfied. In addition, it would be appropriate to identify the most important safety-related USDOE Orders by description and reference.

Section 5.2, Page 23 The last sentence of the second paragraph indicates other standards to be met by the response action include various USDOE, federal and State worker safety standards. The EE/CA should clearly specify which standards are to be met by citation and further by identification of administrative versus substantive requirements.

Section 5.2.1, Page 23 A recommended rewording for the second sentence is: 'Implementing regulations.....and identifies standards for storage, treatment, and/or disposal of these wastes.'

Section 5.2.1, Page 23 A recommended rewording for the third sentence is: 'These requirements are applicable to any wastes existing or generated in the 233-S Facility that designate in accordance with WAC 173-303 as a dangerous or mixed waste.'

Section 5.2.5, Page 25 The subsection entitled 'Radiation Protection Standards' appears to belong in Section 5.1 rather than as a subsection of the section entitled 'Waste Management Standards.' This subsection should be moved to Section 5.1.

Section 5.2.4, Page 25 The safety summary contained in the supporting document entitled *Safety Analysis for the 233-S Decontamination and Decommissioning Project* (Document Number BHI-00892, Rev. 0, August 1996), indicates 'verification of radiological inventory characteristics will be performed to ensure validity of the assumptions used in the ASA.' This verification commitment should be identified in this section. It is noted, the verification commitment identified in the safety analysis is different from that



implied by the text as 'Individual monitoring would be performed as necessary to verify compliance with the requirements.'

Section 5.2.4, Page 25 In the last sentence of the second paragraph, a statement about disposal of radioactive waste is made in relation to ERDF. Either an additional statement should be included which addresses disposal of TRU waste generated during alternatives 3 and 4 or the statement should be deleted. The single statement incorrectly leads the reader to think all waste generated from the proposed activities will be disposed at ERDF.

Section 5.2.5, Page 25 Indicate in the paragraph that WAC 173-303 also regulates wastes with PCBs.

Section 5.2.7, Page 26 The subsection entitled 'Worker Protection' appears to belong in Section 5.1 rather than as a subsection of the section entitled 'Waste Management Standards.' This subsection should be moved to Section 5.1.

Section 5.2.7, Page 26 See comment below regarding the recommendation for a new section (Section 5.12). Due to the concerns discussed during a workshop held on August 20-22, 1996, definitions of 'substantive' and 'administrative' requirements in relation to USDOE Orders should be included in the EE/CA. It was noted during the workshop that the differentiation between administrative and substantive would appropriately be based upon the intent of the USDOE Order rather than on nomenclature which distinguishes between the two types of requirements. It is also recommended the documented resolution (whether it be an approved process or a formal delegation of applicable authority) of the safety issues associated with substantive versus administrative requirements in relation to USDOE Orders be referenced.

Section 5.3, Page 26 It is recommended the term 'long-term' be quantified. In relation to this EE/CA it appears the term means twenty years or greater.

Section 5.3, Page 26 Ecology recommends the last sentence of the second paragraph be qualified to indicate due to the lack of adequate upgrades and/or maintenance in the past, the upgrades anticipated to be necessary in relation to the S&M alternative are considered to be significantly higher than those for active facilities. It might even be appropriate to indicate the upgrades recommended for inactive facilities (i.e., a new roof every twenty years) were not made for the 233-S facility.

Section 5.3, Page 26 The last sentence of the second paragraph should be worded to agree with the cost estimates of Table 3. It is recognized the cost of a new roof (including the removal and disposal of tar and foam from previous repairs) is estimated to be two million dollars. If additional 'major upgrades beyond the scope of routine maintenance' are anticipated, specifically identify them or indicate the statement is in agreement with Table 3's upgrade cost estimate.

Section 5.3, Page 27 The accuracy of the statement in the last sentence of the third paragraph regarding the precluded need for any further S&M should be confirmed. If S&M of subsurface structures is required, the statement would more accurately indicate a minimized S&M applicable to alternative 4.

Section 5.4, Page 27 The last sentence of the third paragraph indicates the TRU waste will be stored at TRUSAF. Because of the likely closure of TRUSAF, it is recommended the sentence indicate storage will occur at a TRU waste storage facility.

Section 5.4, Page 27 The third paragraph does not indicate that mixed and/or dangerous waste, which is not acceptable at ERDF, will be managed. It is recommended an additional sentence be added which indicates storage, treatment, and/or disposal of mixed and/or dangerous waste not disposed at ERDF will occur at a permitted RCRA TSD.

Section 5.5, Page 27 An identification of the potential of exposure to the public (i.e., in the event of roof collapse) should be included in the first paragraph of this section, if applicable.

Section 5.5, Page 28 Ecology recommends the last sentence of the second paragraph be re-worded to indicate the S&M alternative does not meet this particular removal action criteria.

Section 5.7, Page 29 The second sentence of the first paragraph indicates the costs of the S&M alternative do not include any estimate of the additional costs that would be incurred for surveillance as the condition of the building deteriorates. The paragraph should identify the cost of a new roof (including removal and disposal of tar and foam from previous repairs) has been reflected in the estimate and is shown on Table 3 as an upgrade. In addition, it is noted the cost of a new roof has been estimated to be two million dollars rather than 'several million dollars' as indicated on page 30. If there are additional major upgrade expenses not shown on Table 3 which are being referred to in this paragraph, it is appropriate to add them to Table 3.

Section 5.7, Page 30 The first sentence of the second paragraph indicates disposal will occur at ERDF. As this may not be the case, delete the words 'at ERDF.'

Section 5.7, Page 30 As the estimates in relation to alternatives 3 and 4 are anticipated to change, the changes should be reflected here to agree with those of Tables 4 and 5.

Section 5.8, Page 30 It should be noted that this section should only be completed after the lead regulatory agency's review of this EE/CA.

Section 5.10, Page 30 As the second paragraph does not indicate what cumulative impacts may occur for each alternative, the paragraph is not informative. It is recommended the second paragraph either be changed to indicate what impacts may occur from implementation of each alternative or deleted.

Section 5.10, Page 30 Clarification of the paragraph in relation to alternatives is required. For example, it is appropriate to identify if there are anticipated long-term offsite impacts with the no-action alternative. Also, the fourth sentence of the third paragraph should specify the long-term impacts associated with the S&M alternative.

New Section, Page 30 An additional section (Section 5.11) should be added to the EE/CA which describes the environmental regulatory status of 233-S Building in relation to Section 8 of the existing TPA, the proposed modified TPA, and the pending resolution of the REDOX facility as a potential non-permitted TSD. This section should detail the status of 233-S in relation to Section 8 of the existing TPA (i.e., an identification of 233-S as a key facility) and address the end point criteria requirements associated with facilities in the Surveillance and Maintenance (S&M) status.

New Section, Page 15 An additional section (Section 5.12) should be added to the EE/CA which describes the resolution of the safety issues associated with USDOE Order requirements as related to conducting D&D activities under CERCLA authority. This section should detail how administrative and substantive requirements of which safety-related USDOE Orders are to be satisfied. In addition, it would be appropriate to identify the most important safety-related USDOE Orders by description and reference. This section should include a detailed description of the proposed integrated USDOE safety/CERCLA removal action process for facility decommissioning. It is also recommended that advantage be taken of the public comment period for obtaining the public's opinion of the process. In particular, it is recommended that comment be solicited regarding the timing of preparing the Remedial Design Report (RDR). It is Ecology's opinion that in consideration of decommissioning of the 233-S Building, preparation of the RDR prior to the issuance of the EE/CA would better allow a qualification and/or quantification of worker safety and health risks associated with alternatives number 3 and 4. It should be noted that in this case, the RDR would be prepared for the bounding case scenario (alternative number 4) and as such, it is believed its preparation is appropriate prior to the issuance of the EE/CA. Lastly, it should be noted that as this integration decommissioning process is a new one, flexibility can be afforded in the process, and more importantly, for the consideration of decommissioning the 233-S Building, such flexibility is justifiable.



**EPA's Comments Regarding**  
**Draft Engineering Evaluation/Cost Analysis for the 233-S Plutonium**  
**Concentration Facility (Document Number BHI-00870, August 1996)**

General Comment The amount of facility characterization appears to be sufficient.

General Comment The assumptions associated with the necessary characterization and/or verification sampling, which will allow the waste to be disposed at ERDF, are requested to be identified and referenced. Such assumptions should be designed to satisfy ERDF's waste acceptance criteria. The associated cost evaluation of this characterization and/or verification sampling need may indicate an increased or decreased need for decontamination of the facility and as such would directly effect applicable cost estimates.

General Comment The proposed calendar schedule for implementation of these activities must be included in the EE/CA. The schedule should, at a minimum, contain the following: public involvement dates, submittal of all documents such as the sampling and analysis plan, contract bid and award cycle, deployment, work initiation and completion, etc..

General Comment It is indicated throughout the EE/CA document that decontamination wastes will be disposed at ERDF. It is requested the accuracy of the assumption be confirmed.